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PRIMARY CARCINOMA OF THE LIVER.

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Like all other organs of the body, the liver is at first a mass of embryonic tissue, composed of round cells. Out of this plastic mass either the simple tubular liver of the reptilia or the very complicated liver of the higher mammalia may be developed. In the normal human liver there are sometimes found nodules more or less accurately circumscribed, consisting of cells somewhat larger than hepatic cells, with better defined margins, and arranged around a central lumen like the arrangement met with in the more simple tubular glands.[1] No traces of bile are ever found in these cells, and in all probability they do not functionate. They seem to be groups of cells which have stopped in the course of their development at a stage represented by the reptilian liver, instead of going on to form the more complicated liver of the higher vertebrates. These nodules may remain wholly inert throughout the course of a long lifetime, or they may take on a sudden growth through the intervention of some unknown cause, or combination of circumstances, possibly from some slight but long continued irritation, or from some unusual flow of blood to the part. This new growth may consist either of connective tissue alveoli, containing cells arranged regularly around a central lumen, in which case it is called an adenoma, and is almost always a benign growth. The cells may be irregularly scattered in the alveoli like dice shaken up in a box, in which case it is called a carcinoma, and is a malignant growth, destructive in the locality in which it grows, and forming metastases in far distant organs. An adenoma of the

[1] Article on Adenoma by Wm. T. Councilman, in Reference Handbook of Medical Sciences.

liver has been known to form a metastasis, as if to show our powerlessness to make a classification where Nature has drawn no distinct lines of demarcation.[2]

The only rule we can go by in these cases, in attempting to form a judgment of their malignancy or innocence, is that the nearer they approach the type of a normal gland, and the more regular and orderly the arrangement of their elements, the greater likelihood of innocence. On the other hand, the more they deviate from the normal type, the more certainly will they act as cancers. The truth seems to be that these cells are dangerous individuals in the community; they have been erratic from the beginning, and the best to be expected from them is that they may remain stunted and useless members, or, if they grow, that their only crime will be the room occupied, for on apparently slight cause they may break out into the most terrible and destructive form of malignancy.

The foregoing process may, I believe, have been the origin of the cancer I shall now describe.

On March 20, 1888, Dr. F. B. Carpenter, who was then making the autopsies at the city morgue, sent me a tumor of the liver for examination, with the following history :

"Body of well-nourished man, 38 years of age, right heart filled with dark fluid blood, heart muscle soft, lower lobe of left lung solid from lobar pneumonia; both kidneys large, having appearance of chronic nephritis; bladder contracted, walls very much thickened from chronic cystitis; spleen soft, liver large and yellow, and in the middle of the right lobe, directly above the gall bladder, but entirely unconnected with it, a tumor the size of a small orange."

The tumor was a node lying in the depth of the right lobe. When cut into it looked like a perfectly round, ripe, succulent fruit let into the liver substance; there was a glistening callous rind, about an eighth of an inch in thickness, surrounding a purple, hemorrhagic, reticulated centre. There were no satellites in the neighborhood, nor were any other tumors found in the liver or in any part of the body. An oblong block of tissue was cut out of the tumor, including the advancing callous margin, and also the purple hemorrhagic centre. Sections from this block showed, admirably, the nature of the growth. The callous margin was seen to consist of a dense connective tissue stroma, including in its alveoli, cells, showing an attempt at a tubular arrangement; farther

[2]Perls, Virchow's Archiv, vol. 56, p. 436.

in, the alveoli became much larger, the tumor lost all resemblance to a tubular gland, and there were abundant hemorrhages into the alveoli. It looked as if the connective tissue partitions between large groups of alveoli had broken down, forming much larger alveoli. The diagnosis was primary hemorrhagic adeno-carcinoma of the liver. There was extensive fatty infiltration of the liver, and the interlobular tissue in the neighborhood was densely infiltrated with round cells—an interlobulitis, in fact, probably from the irritation of the advancing tumor.

Carcinoma originating in the liver is not by any means frequent, although, as long ago pointed out by Virchow, secondary deposits, or metastases, occurring from cancer in some other part of the body are very frequent, and often grow to a very great size, far outstripping at times the primary growth. Hansemann has gone over the records of cases occurring in the Berlin Pathological Institute from 1870 to 1889 inclusive, and finds in all 258 cases. Only six were primary in the liver, and two of these are rather doubtful, the notes not being full enough to permit of certainty. He found that men and women were affected in about equal proportion. Age, however, plays an important role, for much the larger number occur in old age, though some undoubted cases have been observed in children.[3]

Primary cancer of the liver occurs in three chief forms; as large nodes, sometimes a solitary node, or a large node with a few satellites in the neighborhood; as a diffuse infiltration, which, before microscopical examination, may easily be mistaken for ordinary cirrhosis of the liver; or, lastly, as nodules, following the course of the portal vessels. The present is of the first variety. As for diagnosis, none could have been made in this case; it is even very doubtful if the disease had given rise to any symptoms. If his life had not been cut short by an intercurrent, lobar pneumonia symptoms, of course, would naturally have come with the development of the disease. Even in cases far advanced, where symptoms are very pronounced, the diagnosis of cancer of the liver is so surrounded with difficulties as to render it little more than a guess—a guess which we often hazard only to the relatives, and not to the patient.

It must be admitted that the future holds out very little hope of

[3]Ueber den primären Krebs der Leber, Hansemann, Berlin. klin. Wochenschrift, November 16, 1890.

making an early diagnosis in this class of cases. A great advance has been made of late years in our ability to recognize cancers at an early period of their history in situations where we are able to see them, and, if necessary, remove a piece for histological analysis; but cancer of the liver is very often a riddle, the first satisfactory solution of which takes place on the *post-mortem* table.

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